

Application Serial No. 10/531,218  
Reply to Office Action December 16, 2010

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PATENT  
Docket: CU-4148

### **Amendments to the Claims**

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

#### **Listing of claims:**

1.-6. (cancelled)

7. (currently amended) A method of manufacturing weight-saved gypsum board in which pores with a predetermined size are distributed in a gypsum core, comprising the steps of:

blowing air into a foaming agent to produce a foam having bubbles;

mixing the foam having bubbles into a kneaded material that contains calcined gypsum and water to obtain foamed gypsum slurry;

pouring the foamed gypsum slurry into a space between upper and lower papers for gypsum board;

shaping the base papers and the foamed gypsum slurry into a board shape;

roughly cutting off and subsequently drying the board shape; and

cutting off the dried board shape into a product dimension;

wherein the method further comprises the step of preliminarily adding a pore size adjusting agent for adjusting sizes of pores formed by bubbles distributed in the foamed gypsum slurry to one of a stock solution of the foaming agent and a mixture of a stock solution of the ~~forming~~foaming agent and water to obtain the foaming agent for producing a foam having bubbles with desired sizes;

wherein the pore size adjusting agent contains at least one substance selected from the group consisting of agents for decreasing sizes of pores formed by bubbles in the foamed gypsum slurry; and

the agent for decreasing sizes of pores formed by bubbles in the foamed gypsum slurry contains at least one substance selected from the group consisting of sulfosuccinate-type surface active agents, sarcosinate-type surface active agents, alkylbenzene sulfonate-type surface active agents, alkane

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sulfonate-type surface active agents, and alkylbetaine-type surface active agents.

8. (previously presented) The method of manufacturing a weight-saved gypsum board as claimed in claim 7, wherein in a content of the pore size adjusting agent in the foaming agent is 0.00001 parts by weight through 0.005 parts by weight per 100 parts by weight of the calcined gypsum

9. (previously presented) A method of manufacturing a weight-saved gypsum board in which pores with a predetermined size are distributed in a gypsum core, comprising the steps of:

blowing air into a foaming agent to produce a foam having bubbles;

mixing the foam having bubbles into a kneaded material that contains calcined gypsum and water to obtain foamed gypsum slurry;

pouring the foamed gypsum slurry into a space between upper and lower base papers for gypsum board;

shaping the base papers and the foamed gypsum slurry into a board shape;

roughly cutting off and subsequently drying the board shape; and

cutting off the dried board shape into a product dimension;

wherein the method further comprises the step of preliminarily adding a pore size adjusting agent for adjusting sizes of pores formed by bubbles distributed in the foamed gypsum slurry to one of a stock solution of the foaming agent and a mixture of a stock solution of the foaming agent and water to obtain the foaming agent for producing a foam having bubbles with desired sizes;

wherein the pore size adjusting agent contains at least one substance selected from the group consisting of agents for increasing sizes of pores formed by bubbles in the foamed gypsum slurry; and

the agent for increasing sizes of pores formed by bubbles in the foamed gypsum slurry contains at least one substance selected from the group

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consisting of sulfuric acid, sulfamic acid, sodium hydroxide, and potassium hydroxide.

10. (previously presented) The method of manufacturing a weight-saved gypsum board as claimed in claim 9, wherein a content of the pore size adjusting agent in the foaming agent is 0.00001 parts by weight through 0.005 parts by weight per 100 parts by weight of the calcined gypsum.

11. (new) The method of manufacturing a weight-saved gypsum board as claimed in claim 9, wherein the agent for increasing sizes of pores formed by bubbles in the foamed gypsum slurry contains at least one substance selected from the group consisting of sulfuric acid, sulfamic acid, and potassium hydroxide.